Public Engagement in the Implementation of the Policy on Waste Banking

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Info Artikel

Keywords:
Participation; Society; Kalioso.

Kata kunci:
Partisipasi; Masyarakat; Kalioso.

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P-ISSN: 1412-6605
E-ISSN: 2301-6426

Abstract

Kalisoro urban village is one of the tourist areas facing the issue of rising pile of garbage and the lack of knowledge of the waste. Especially in waste management this problem really needs more attention. Society involvement support is required in this waste management. Kalisoro Village waste management is an independent waste management village which involves the community. In this management, using the Reuse, Minimize, and Recycle 3R process. This study aims to explain the participation of independent waste village management by identifying the phases of participation society, the level of participation society and the factors affecting participation in the group. This study is presented in qualitative descriptive form, using in-depth interview technique in data collection and also using interactive data analysis technique for data triangulation. In this study, the culture represented by the Non-Governmental Organisations manages the consequence of involvement society in the management of the autonomous waste villages. Society ways of engagement are to contribute ideas, resources, funds, and engage in waste collection. But not all Kalisoro Village groups participated directly. In Kalisoro Village the level of participation society involves Citizen Power.

Abstrak

Kelurahan Kalisoro adalah salah satu kawasan wisata yang dihadapkan pada masalah meningkatnya tumpukan sampah dan tidak adanya kesadaran akan sampah. Masalah ini sangat membutuhkan perhatian terutama dalam pengelolaan sampah. Dalam pengelolaan sampah ini diperlukan bantuan partisipasi dari masyarakat. Pengelolaan limbah di Desa Kalisoro adalah desa pengelolaan limbah mandiri yang melibatkan masyarakat. Dalam manajemen ini menggunakan metode 3R Reuse, Reduce, dan Recycle. Penelitian ini bertujuan untuk mendeskripsikan partisipasi pengelolaan desa sampah mandiri dengan menggambarkan tahapan partisipasi masyarakat, tingkat partisipasi masyarakat, dan faktor-faktor yang mempengaruhi partisipasi masyarakat. Penelitian ini disajikan dalam bentuk deskriptif kualitatif, menggunakan teknik wawancara mendalam dalam pengumpulan data dan juga menggunakan teknik triangulasi data dengan teknik analisis data interaktif. Dalam penelitian ini, hasil partisipasi masyarakat dalam pengelolaan desa sampah mandiri dikelola oleh masyarakat yang diwakili oleh Kelompok Non-Pemerintah. Bentuk partisipasi masyarakat adalah menyumbangkan ide, energi, dana, dan berpartisipasi dalam pengumpulan sampah. Namun, tidak semua masyarakat di Desa Kalisoro berpartisipasi secara langsung.

I. Introduction

Indonesia in 2019 produces around 66 - 67 million tons of waste. This amount is higher than the amount of waste per year which reaches 64 million tons. Based on the report from the Minister of Environment and Forestry to the President of the Republic of Indonesia, Joko Widodo, the type of waste produced is dominated by organic waste which reaches around 60 percent and plastic waste which reaches 15 percent. The government is currently preparing steps so that plastic waste does not pollute the oceans in Indonesia. Garbage is a cultural problem because its impact affects various sides of life. The poor handling of waste has an impact on the environment, causing various problems ranging from health problems to floods. The increasingly complex waste problem in DKI Jakarta is not only caused by the increasing population, but is also influenced by other factors, including the diversity of the socio-economic and cultural conditions of the city community, the lack of seriousness of the government and the community in managing and dealing with waste problems, and its incompatibility. the concept of waste management that is applied to a certain area.[1]

One of the environmental problems that is often in the spotlight of the community today, one of which is visible to date, is garbage. Garbage is still a source of air pollution due to its smell, and water pollution due to improper handling of waste water, as well as a cause of disease outbreaks and floods. This means that waste management that does not use environmentally friendly waste management methods and techniques and can have a negative impact on health will also greatly disrupt the sustainability of environmental functions both in residential areas, forests, rice fields, rivers and oceans. The waste problem can be seen from several aspects, including:[2]

a. Rapid population growth / urbanization, which causes garbage piles;
b. The tendency of transporting waste in insufficient quantity and condition;
c. The landfill management system (TPA) is less precise and not environmentally friendly;
d. The 3R (reduce, reuse and recycle) approach has not been implemented.

Waste management practices differ between developed and developing countries, different between urban and rural areas, and between residential and industrial areas. Management of non-hazardous waste from settlements and

[1] I Gusti Ayu Ketut Rachmi Handayani and AnisMashdurohatun Kartina Pakpahan, 'EFFORTS TO REDUCE CRIME OF PROCESSED FOOD WITHOUT CIRCULAR LICENSE IN INDONESIA', *International Journal of Advanced Science and Technology*, 28.15 (2019), 839–44 <https://e-bpom.pom.go.id/.> [accessed 27 August 2020].

[2] Nurhidayatuloh - and others, 'Transboundary Haze-Free for Southeast Asian Countries by 2020: A Delusional Vision?', *International Journal of Psychosocial Rehabilitation*, 24.02 (2020), 1923–29 <https://doi.org/10.37200/ijpr/v24i2/pr200494>.

institutions in metropolitan areas is usually the responsibility of local governments, while waste from commercial and industrial areas is usually handled by waste processing companies. Waste management methods vary depending on many things, including waste substances, soil used for processing and availability of waste. In Law Number 18 of 2008 concerning Waste Management, local governments are expected to be able or able to regulate all aspects related to waste management. Not only limited to management procedures such as collection to disposal at the TPA, but also the responsibility of all parties, starting from the government, the private sector, as well as in the community in managing waste. Then the perda also explains that all parties must be aware of this waste problem, including the community.[3]

The problem of national waste is troubling enough. Currently, Indonesia is the second largest contributor of plastic waste to the sea in the world. Every year, each city in the world produces at least 1.3 billion tons of waste. It is estimated by the World Bank, by 2025, this number will increase to 2.2 billion tons. The fact about national waste is quite unsettling. A study published on www. sciencemag.org In February last year, Indonesia was ranked second in the world for plastic waste contributor to the sea after China, followed by the Philippines, Vietnam and Sri Lanka. According to Greeneration Research, a non-governmental organization that has been following the issue of waste for 10 years, one person in Indonesia on average produces 700 plastic bags per year. In nature, plastic bags that do not decompose are a threat to life and ecosystems. The increase in the amount of waste will further add to the problem, when people behave badly about garbage, by littering, such as on roads, in rivers, and not using the trash bins that have been provided. This behavior does not recognize the level of education or social status, for example in government offices, schools or campuses there are still many people who litter.[4]

This waste problem is closely related to population growth, economic growth and changes in people's consumption patterns. Based on data from the Ministry of Environment and Forestry (KLHK), the national waste generation amount is 175,000 tonnes per day or the equivalent of 64 million tonnes per year if using the assumption that the waste generated per person per day is 0.7 kg. Then the problem faced by local governments at this time is waste management that is carried out in open dumps. With the narrowing of the land in carrying out the disposal of waste in the Final Disposal Site (TPA) is currently ineffective. Therefore, a new regulation is needed that can support the management of waste into energy that is not only accommodated by Government Regulations but can

[3] Tedi Sudrajat, 'Harmonization of Regulation Based on Pancasila Values Through the Constitutional Court of Indonesia', *Constitutional Review*, 4.2 (2019), 301 <https://doi.org/10.31078/consrev426>.

[4] Lego Karjoko, Universitas Sebelas Maret, and Universitas Slamet Riyadi, 'EXECUTABILITY OF THE CONSTITUTIONAL COURT DECISION REGARDING GRACE PERIOD IN THE FORMULATION OF LEGISLATION', 28.15 (2019), 816–23.

be improved in law so that guarantees for waste into energy management in the regions can be implemented.[5]

In line with population growth and the increasing development of society in Indonesia, problems that cause primary issues from various fields have started to emerge, especially in the environmental sector which causes environmental damage and pollution. One of the causes of this problem is garbage. The volume of waste is increasing along with population growth which is increasing every year, especially in urban areas. This waste problem is not a problem that just happened but it has not been resolved effectively and efficiently. This requires an effective and efficient waste management system or a community-based waste management system. According to the Law of the Republic of Indonesia Number 18 of 2008 concerning Waste Management which contains the participation of the community in managing waste, namely the community. The community can participate in solving waste problems by taking an active role in waste management. Taking an active role means that the community also takes part in maintaining, and is directly involved in managing waste.[6]

This waste problem is also experienced in Karanganyar Regency, which is generally an area where there are many industries. This will result in an increased workforce absorption. With the increase in the workforce, there will be an indirect increase in population. The increase in population will affect the behavior or lifestyle as well as the consumption pattern of the community which results in an increase in the volume of waste as well. The Sanitation and Gardening Office (DKP) also invited the villages in Karanganyar to work together in waste management by forming a village independent waste management program. The village program for independent waste management will be the main program to reduce the amount of waste that enters the TPA Sukosari, Jumantono so that the age of the TPA can last a long time by sorting the types of waste according to its type. Independent waste processing villages while only three villages have implemented this management system, the three villages are Kalisoro in Tawangmangu district, Buran in Tasikmadu district; and Selokaton, in Gondangrejo district. For the next step, the Government will add 17 locations to become independent waste processing villages.[7]

One of the villages that has implemented an independent waste management system is the Kalisoro village / sub-district. This independent waste

[5] Lego Karjoko and others, 'Spatial Planning Dysfunction in East Kalimantan to Support Green Economy', *International Journal of Innovation, Creativity and Change*, 11.8 (2020), 259–69.

[6] Lego Karjoko Muhammad Bagus Adi Wicaksono, I Gusti Ayu Ketut Rachmi Handayani, 'Strengthening the Government's Supervision in Coal Mining as Enforcement of Administrative Laws in Post and Mining Activities', *International Journal of Advanced Science and Technology*, 29.3 (2020), 2870–77 <http://sersc.org/journals/index.php/IJAST/article/view/4485> [accessed 27 August 2020].

[7] Claudia Furlan and others, 'The Role of Clouds in Improving the Regression Model for Hourly Values of Diffuse Solar Radiation', *Applied Energy*, 92 (2012), 240–54 <https://doi.org/10.1016/j.apenergy.2011.10.032>.

management system was initiated in 2014. This program originated from the creativity and tenacity of the people of Kalisoro Village in handling waste. The idea was then realized by creating a waste bank and a waste processing facility that used an integrated reduce reuse recycle (TPST 3R) waste management system with assistance from the Karanganyar Regency Environmental Service. The assistance is a form of assistance from the Community Environmental Sanitation Development (PPLP) program. Kalisoro Village / Kelurahan also has its own processing facility called "TPST 3R KSM Makaryo Mulyo".[8]

The waste management at TPS3R Makaryo Utomo serves the waste from villagers of around 400 families. TPS3R Makaryo Utomo officials did not collect waste in waste management, but carried out by youth organizations in Kalisoro Village / Kelurahan. However, in its implementation, there are obstacles, namely in the collection of waste, officers still find that many residents have not separated the waste. The officers have to sort the waste at the waste processing site, even though the land in TPS3R is not large and it is given that Kalisoro Village / Kelurahan is a tourist area. Based on this problem, the authors are interested in researching Participation in Independent Waste Village Management in Kalisoro Village / Kelurahan, Tawangmangu, Karanganyar Regency because it is in line with a government program that wants to form an independent waste village.[9]

II. Methods

The type of participation that the writer does is qualitative research. According to Bogdan and Taylor, a qualitative research method in their book Moelong[10] is a research procedure that produces descriptive data in the form of written or spoken words from people and observable behavior. This paper examines a community participation in independent waste management. The research location in this paper is located at KSM Makaryo Utomo, Kalisoro Village, Tawangmangu District, Kab. Karanganyar. For taking samples using purposive sampling, while data collection is done by in-depth interviews, observation and also reviewing documents. Meanwhile, for the validity of the data in this study

[8] Christian A. Gueymard, 'Cloud and Albedo Enhancement Impacts on Solar Irradiance Using High-Frequency Measurements from Thermopile and Photodiode Radiometers. Part 1: Impacts on Global Horizontal Irradiance', *Solar Energy*, 153 (2017), 755–65 <https://doi.org/10.1016/j.solener.2017.05.004>.

[9] Christian Gueymard, 'A Two-Band Model for the Calculation of Clear Sky Solar Irradiance, Illuminance, and Photosynthetically Active Radiation at the Earth's Surface', *Solar Energy*, 43.5 (1989), 253–65 <https://doi.org/10.1016/0038-092X(89)90113-8>.

[10] Fadjar Harimurti and Abdul Kadir Jaelani, 'IMPLICATIONS OF HALAL TOURISM SECTOR TO OPTIMIZE REGIONAL OWN SOURCE REVENUE OF TAX AND TOURISM CHARGES', 28.15 (2019), 830–38.

using data and source triangulation techniques with interactive data analysis techniques.[11]

III. Results and Discussion

One of the big problems faced by big cities in Indonesia is solid waste. Garbage can be interpreted as a consequence of the activities of human life. It is undeniable that waste will always exist as long as life activities are still running. Every year, we can be sure that the volume of waste will always increase along with the increasing pattern of consumerism in society. The Ministry of Environment noted that the average Indonesian population produces around 2.5 liters of waste per day or 625 million liters of the total population. This condition will continue to increase according to environmental conditions. According to the Indonesian Waste Statistics (2012), the amount of waste that appears throughout Indonesia reaches 38.5 million tons per year, with the dominant waste being in Java (21.2 million tons per year).[12]

Law Number 18 of 2008 concerning Waste Management and Government Regulation Number 81 of 2012 mandated the need for a fundamental paradigm shift in waste management, namely from the collect-transport-throw paradigm, to a processing that focuses on reducing waste and handling waste. It is time for the waste management paradigm that relies on the final approach to be abandoned and replaced with a new paradigm. A paradigm that considers waste as a resource that has economic value and can be used, for example, for energy, compost, fertilizer, and industrial raw materials. Waste management can be done with a comprehensive approach. Starting from the upstream, that is, since a product that has the potential to become waste has not been produced. It continues downstream, where the product has been used, so that it becomes waste, which is then returned to environmental media safely.[13]

Waste reduction activities aim to ensure that all levels of society, including the government, the business world, and the wider community; carry out activities to limit waste generation, recycling and reuse of waste or better known as Reduce, Reuse and Recycle (3R) through smart, efficient and programmed efforts. However, this 3R activity still faces a major obstacle, namely the low level of public awareness of sorting waste. As a solution to this problem, the Ministry of Environment is making efforts to develop a Waste Bank. This activity is a social

[11] Soeleman Djaiz Baranyanan, I. Gusti Ayu Ketut Rachmi Handayani, and Isharyanto, 'Political Law of Local Government to Resolve Disputes Adat Law in Kei Island', *International Journal of Advanced Science and Technology*, 28.20 (2019), 494–99.

[12] Aditya Bagus Kuncoro and others, 'Urgency of Government Protection on Consumers in the Concept of the Rule of Law', *International Journal of Advanced Science and Technology*, 28.20 (2019), 331–35.

[13] I. Gusti Ayu Ketut Rachmi Handayani, Lego Karjoko Muhammad Bagus Adi Wicaksono, 'Regional Government Supervision on Coal Mine Voids in East Kalimantan Province', *International Journal of Advanced Science and Technology*, 29.04 (2020), 7168 – 7178–7168 – 7178 <http://sersc.org/journals/index.php/IJAST/article/view/28125> [accessed 27 August 2020].

engineering activity that teaches people to sort waste, as well as fostering public awareness in managing waste wisely. The hope will be to reduce the amount of waste transported to the TPA. The construction of a waste bank is an initial momentum in building collective awareness of the community to start sorting, recycling and utilizing waste. This is important, because waste has a selling value and environmentally friendly waste management can become a new culture for Indonesia.[14]

The role of the Garbage Bank is important with the issuance of Government Regulation (PP) Number 81 of 2012 concerning Management of Household Waste and Waste Similar to Household Waste. The PP regulates the obligation of producers to carry out 3R activities by producing products that use packaging that is easily broken down by natural processes; which creates as little waste as possible; using production raw materials that can be recycled and reused; and / or reclaim waste from products and product packaging for recycling and reuse. With the Waste Bank, producers can collaborate with existing Waste Banks in order to process waste from the products they produce in accordance with the mandate of the PP.[15]

According to Azwar (1990: 53), waste is something that is no longer used, that cannot be used anymore, that is not liked and must be thrown away, then the waste must of course be managed properly, in such a way that negative things for life doesn't happen. Kodoatie (2003) defines waste as solid or semi-solid waste or waste, which is a byproduct of urban activities or the life cycle of humans, animals or plants. Waste in environmental health science (refuse) is actually only a part of objects or things that are deemed unused, unused, disliked or must be disposed of, in such a way that it does not interfere with survival. According to SK SNI T-13-1990 F, what is meant by waste is solid waste consisting of organic and inorganic substances. According to Hadiwiyoto (1983), based on its location, waste can be classified into two, namely: urban waste, which is garbage collected in big cities and regional waste, which is garbage collected in areas outside urban areas, for example in villages, in residential areas and on the coast.[16]

Waste management is part of cleaning management. The notion of clean actually does not only mean the absence of waste, but also contains an understanding that leads to an aesthetic review. There are three main concerns and must be carefully considered in waste management, 2 namely: identification of the condition of the existing waste management system; good and correct definition in terms of waste management; and coaching and development policy patterns. Waste management is all activities carried out to handle waste from its

[14] Furlan and others.

[15] Handayani and Kartina Pakpahan.

[16] Abdul Kadir Jaelani and others, 'DEVELOPMENT OF TOURISM BASED ON GEOGRAPHIC INDICATION TOWARDS TO WELFARE STATE', *International Journal of Advanced Science and Technology*, 29.3s (2020), 1227–34.

generation to final disposal. Broadly speaking, waste management activities include: waste generation control, garbage collection, transportation, processing and final disposal.[17]

Waste handling is not easy, but it is very complex, because it includes technical, economic and sociopolitical aspects. Waste management is an effort to regulate or manage waste from the process of packaging, collection, transfer, transportation, processing, to final disposal (DPU Cipta Karya, 1993). The waste management system is a waste management process that includes five aspects. These five aspects are closely related to one another to form a single unit, so that efforts to improve solid waste management must cover various systems. As for these aspects, namely: institutional aspects, financing, regulation, community participation, and operational techniques.[18]

According to SK SNI T-13-1990-F, basically the urban waste management system is seen as subsystem components that support each other, interact and are related to one another. These five aspects are the initial prerequisites so that solid waste management can be carried out properly. One aspect with other aspects is closely related and mutually supportive. Institutions function as activators and implementers, so that the entire system can operate properly. Financing, which includes a budget and a source of funds, is primarily able to support operational needs. Meanwhile, the community, as the producer of waste, plays a role in reducing waste generation and in providing funds. And what is not less important is regulatory support that becomes the legal umbrella so that the system can achieve its goals effectively. Ratification of Law Number 18 Year 2008 concerning Waste Management, is the main step in implementing solid waste management, especially in the regulatory aspect.[19]

Kastaman (2004) in Koesrimardiyati (2011) defines community-based waste management as a waste management approach based on active community participation. The government and other institutions are only motivators and facilitators. Douglas, et al. (1994) stated that environmental management requires the facilitation and implementation of community-based efforts as a strategy for empowering and increasing their access to important environmental resources, especially land, infrastructure and services. Community-based waste management is very important, because these activities are carried out by members of the community themselves. They make decisions related to their

[17] Abdul Kadir Jaelani, I.G.A.K. Rachmi Handayani, and Isharyanto, 'Regulation of Regional Government on Halal Tourism Destinations in West Nusa Tenggara Province after Constitutional Court Decision Number 137/PUU-XIII/2015', 2019, CCCLVIII, 107–10 <https://doi.org/10.2991/icglow-19.2019.27>.

[18] Nurhidayatuloh and others, 'Transboundary Haze-Free for Southeast Asian Countries by 2020: A Delusional Vision?', *International Journal of Psychosocial Rehabilitation*, 24.2 (2020), 1923–29 <https://doi.org/10.37200/IJPR/V24I2/PR200494>.

[19] Christian A. Gueymard.

own lives. This will be more effective if it is adapted to local needs and their priorities and capacities.[20]

Whereas community-based waste management programs often fail due to low household participation. If waste management is not considered a necessity, it will result in low participation and willingness to pay. Meanwhile, Koesrimardiyati (2011) states that community-based waste management activities can continue if there is a change in the behavior of residents who manage their waste independently, accompanied by community organizing that centers on women at the community level, one of which is Rukun Warga. The 3R waste management approach opens new perspectives and insights for the community in managing waste. Waste is no longer considered useless goods, but through the 3R approach, waste can be made into something of added value. Therefore, community involvement to participate in recycling activities is needed, both as producers and as members of the waste-producing community.[21]

Waste will have economic value if it is in sufficient quantities for trade or further processing as economic goods, both as raw material (recycled) and as a trading commodity. If the community as the waste producer participates in waste management, for example 3R; then accommodating and marketing the waste needs a container. This is where the importance of the Waste Bank can be seen as a means for the community to save, improve the socio-economy, as well as empower the community in waste management. According to Aryenti (2011), a Waste Bank is a place to store waste that has been sorted according to the type of waste. The way the Garbage Bank works is generally almost the same as other banks, there are customers, bookkeeping and management management. If in a commercial bank the customer is depositing money, but in a Waste Bank that is deposited is waste that has economic value.[22]

Waste banks should be managed by people who are creative and innovative, and have an entrepreneurial spirit, in order to increase people's income. The Garbage Bank work system is carried out on a household basis, by providing rewards to those who succeed in sorting and depositing a number of rubbish. The concept of a Waste Bank adopts bank management in general. Apart from being a means of carrying out a reforestation movement, waste management can also be a means of educating people to like to save for the community and children. The Garbage Bank method also serves to empower people to care about cleanliness.[23]

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[20] Delia Calinoiu and others, 'Influence of Aerosols Pollution on the Amount of Collectable Solar Energy', *Energy Conversion and Management*, 70 (2013), 76–82 <https://doi.org/10.1016/j.enconman.2013.02.012>.

[21] Ayobami Solomon Oyewo and others, 'Pathway towards Achieving 100% Renewable Electricity by 2050 for South Africa', *Solar Energy*, 191 (2019), 549–65 <https://doi.org/10.1016/j.solener.2019.09.039>.

[22] Martin Hofmann and Gunther Seckmeyer, 'Influence of Various Irradiance Models and Their Combination on Simulation Results of Photovoltaic Systems', *Energies*, 10.10 (2017) <https://doi.org/10.3390/en10101495>.

[23] Karjoko and others.

Kalisoro Village is one of the areas that has implemented independent waste management. This waste management involves the community in its implementation. This community involvement was preceded by the activeness of the Youth Association (LPP) and the Baitul Mal Foundation which had the idea of carrying out waste management. Through the Work Unit for the Development of Environmental Sanitation for Settlements (PPLP), the Public Works Office of Central Java, Kalisoro Village can create a waste processing facility that is carried out independently. This waste management is managed by a non-governmental organization which is named the Integrated Reuse, Reduce and Recycle Waste Processing (TPST) 3R KSM "Makaryo Utomo". This self-help group was formed from a deliberation with the residents of Kalisoro Village. Community participation in independent waste management can be seen from the stages of community participation according to the theory of Mardikanto.[24]

III. Conclusion

From the results of the study, it can be concluded that in general, community participation in the management of independent waste villages is that not all communities are directly involved in independent village waste management at TPST 3R (Integrated Waste Management Site Reduce, Reuse, Recyle) which is managed by a Community Self-Help Group. (KSM) Makaryo Utomo in Kelurahan Kalisoro. The community participation is as follows: First, the achievement of the level of community participation carried out by KSM 3R Makaryo Utomo is at the level of citizen power which includes Partnership, Delegated Power and Control by citizens (Citizen Control). Second, at the stage of community participation, not all people are directly involved, because they are represented by KSM Makaryo Utomo. Third, there are factors that influence community participation in the management of independent waste villages, namely the driving factor in independent waste management is the opportunity, willingness, and ability of the community to be involved. Meanwhile, the inhibiting factor for independent waste management is due to limited human resources or funds.

IV. Acknowledgement

This article is the result of Community Service funded by the Slamet Riyadi University Surakarta Institute for Research and Community Service in 2019-2020.

[24] Kuncoro and others.

Refrences

-,Nurhidayatuloh, Febrian -, Mada Apriandi, Annalisa Y, Helena Primadianti Sulistyaningrum, Irawati Handayani, and others, 'Transboundary Haze-Free for Southeast Asian Countries by 2020: A Delusional Vision?', *International Journal of Psychosocial Rehabilitation*, 24.02 (2020), 1923–29 <https://doi.org/10.37200/ijpr/v24i2/pr200494>

Baranyanan, Soeleman Djaiz, I. Gusti Ayu Ketut Rachmi Handayani, and Isharyanto, 'Political Law of Local Government to Resolve Disputes Adat Law in Kei Island', *International Journal of Advanced Science and Technology*, 28.20 (2019), 494–99

Calinoiu, Delia, Marius Paulescu, Ioana Ionel, Nicoleta Stefu, Nicolina Pop, Remus Boata, and others, 'Influence of Aerosols Pollution on the Amount of Collectable Solar Energy', *Energy Conversion and Management*, 70 (2013), 76–82 <https://doi.org/10.1016/j.enconman.2013.02.012>

Furlan, Claudia, Amauri Pereira de Oliveira, Jacyra Soares, Georgia Codato, and João Francisco Escobedo, 'The Role of Clouds in Improving the Regression Model for Hourly Values of Diffuse Solar Radiation', *Applied Energy*, 92 (2012), 240–54 <https://doi.org/10.1016/j.apenergy.2011.10.032>

Gueymard, Christian, 'A Two-Band Model for the Calculation of Clear Sky Solar Irradiance, Illuminance, and Photosynthetically Active Radiation at the Earth's Surface', *Solar Energy*, 43.5 (1989), 253–65 <https://doi.org/10.1016/0038-092X(89)90113-8>

Gueymard, Christian A., 'Cloud and Albedo Enhancement Impacts on Solar Irradiance Using High-Frequency Measurements from Thermopile and Photodiode Radiometers. Part 1: Impacts on Global Horizontal Irradiance', *Solar Energy*, 153 (2017), 755–65 <https://doi.org/10.1016/j.solener.2017.05.004>

Handayani, I Gusti Ayu Ketut Rachmi, and AnisMashdurohatun Kartina Pakpahan, 'EFFORTS TO REDUCE CRIME OF PROCESSED FOOD WITHOUT CIRCULAR LICENSE IN INDONESIA', *International Journal of Advanced Science and Technology*, 28.15 (2019), 839–44 <https://e-bpom.pom.go.id/.> [accessed 27 August 2020]

Harimurti, Fadjar, and Abdul Kadir Jaelani, 'IMPLICATIONS OF HALAL TOURISM SECTOR TO OPTIMIZE REGIONAL OWN SOURCE REVENUE OF TAX AND TOURISM CHARGES', 28.15 (2019), 830–38

Hofmann, Martin, and Gunther Seckmeyer, 'Influence of Various Irradiance Models and Their Combination on Simulation Results of Photovoltaic Systems', *Energies*, 10.10 (2017) <https://doi.org/10.3390/en10101495>

Jaelani, Abdul Kadir, I Gusti, Ayu Ketut, Rachmi Handayani, and Lego Karjoko, 'DEVELOPMENT OF TOURISM BASED ON GEOGRAPHIC INDICATION TOWARDS TO WELFARE STATE', *International Journal of Advanced Science*

and Technology, 29.3s (2020), 1227–34

Jaelani, Abdul Kadir, I.G.A.K. Rachmi Handayani, and Isharyanto, 'Regulation of Regional Government on Halal Tourism Destinations in West Nusa Tenggara Province after Constitutional Court Decision Number 137/PUU-XIII/2015', 2019, CCCLVIII, 107–10 <https://doi.org/10.2991/icglow-19.2019.27>

Karjoko, Lego, Universitas Sebelas Maret, and Universitas Slamet Riyadi, 'EXECUTABILITY OF THE CONSTITUTIONAL COURT DECISION REGARDING GRACE PERIOD IN THE FORMULATION OF LEGISLATION', 28.15 (2019), 816–23

Karjoko, Lego, Djoko Wahyu Winarno, Zaidah Nur Rosidah, and I. Gusti Ayu Ketut Rachmi Handayani, 'Spatial Planning Dysfunction in East Kalimantan to Support Green Economy', *International Journal of Innovation, Creativity and Change*, 11.8 (2020), 259–69

Kuncoro, Aditya Bagus, Gusti Ayu Ketut Rachmi Handayani, Yudho Taruno Muryanto, and Lego Karjoko, 'Urgency of Government Protection on Consumers in the Concept of the Rule of Law', *International Journal of Advanced Science and Technology*, 28.20 (2019), 331–35

Muhammad Bagus Adi Wicaksono, I Gusti Ayu Ketut Rachmi Handayani, Lego Karjoko, 'Strengthening the Government's Supervision in Coal Mining as Enforcement of Administrative Laws in Post and Mining Activities', *International Journal of Advanced Science and Technology*, 29.3 (2020), 2870–77 <http://sersc.org/journals/index.php/IJAST/article/view/4485> [accessed 27 August 2020]

Muhammad Bagus Adi Wicaksono, I. Gusti Ayu Ketut Rachmi Handayani, Lego Karjoko, 'Regional Government Supervision on Coal Mine Voids in East Kalimantan Province', *International Journal of Advanced Science and Technology*, 29.04 (2020), 7168 – 7178–7168 – 7178 <http://sersc.org/journals/index.php/IJAST/article/view/28125> [accessed 27 August 2020]

Nurhidayatuloh, Febrian, Mada Apriandi, Y. Annalisa, Helena Primadianti Sulistyaningrum, Irawati Handayani, and others, 'Transboundary Haze-Free for Southeast Asian Countries by 2020: A Delusional Vision?', *International Journal of Psychosocial Rehabilitation*, 24.2 (2020), 1923–29 <https://doi.org/10.37200/IJPR/V24I2/PR200494>

Oyewo, Ayobami Solomon, Arman Aghahosseini, Manish Ram, Alena Lohrmann, and Christian Breyer, 'Pathway towards Achieving 100% Renewable Electricity by 2050 for South Africa', *Solar Energy*, 191 (2019), 549–65 <https://doi.org/10.1016/j.solener.2019.09.039>

Sudrajat, Tedi, 'Harmonization of Regulation Based on Pancasila Values Through the Constitutional Court of Indonesia', *Constitutional Review*, 4.2 (2019), 301

<https://doi.org/10.31078/consrev426>